

**Abstract**

A method for the quantitative analysis of three or more samples containing molecules having an amine bearing an active hydrogen by mass spectrometry is disclosed. The method involves the chemical derivatization of amines in the sample by reacting the samples with isotopically labelled reagents, resulting in the isotopic labelling of the alkylamine derivatives. The method allows for the simultaneous examination and analysis of many samples. The method is particularly useful in the field of proteomics.